ARTICLE 19 AMENDMENT

CLAIMS

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11. (Added) A wireless communication apparatus, comprising:

a subcarrier number determining section determining a number of subcarriers allocated every communicating

party;

a first transmission section transmitting information about a number of subcarriers determined by the subcarrier number determining section to each communicating party; and

an allocation control section selecting subcarriers to allocate transmission data to every communicating party based on channel quality information for the number of subcarriers for each communicating party extracted from a received signal.

12. (Added) The wireless communication apparatus according to claim 11, wherein the subcarrier number determining section determines the number of subcarriers allocated every communicating party in such a manner as to achieve a required transmission rate or more for each communicating party.

13. (Added) The wireless communication apparatus according to claim 11, wherein the subcarrier number determining section takes the number of subcarriers allocating to a communicating party to be all subcarriers within a communication band where the amount of data for the channel quality information of the subcarriers selected by the communicating party and subcarrier identification information indicating the subcarriers selected by the communicating party is larger than an

amount of data for channel quality information for all subcarriers within the communication band.

14. (Added) The wireless communication apparatus according to claim 11, wherein:

the subcarrier number determining section determines the number of subcarriers for a communicating party by multiplying the number of subcarriers allocated to the communicating party by the allocation control section in one frame previous to a current frame by a predetermined constant; and

the first transmission section transmits information for the number of subcarriers determined by the subcarrier number determining section in the current frame.

15. (Added) The wireless communication apparatus according to claim 11, wherein the subcarrier number determining section determines the number of subcarriers in accordance with equation (1):

$$S_k = \lceil \alpha \times R_k / r \rceil \ldots \quad (1)$$

where S_k: subcarrier number (where k is a user number that is a natural number of 2 or more);

α: first constant;

R_k: required transmission rate of a communicating party (where k is user number and is a natural number of 2 or more);

r: transmission rate for one subcarrier while employing modulation coding schemes having a highest transmission rate or having a transmission rate for one subcarrier while using modulation coding schemes satisfying a required packet error rate using a channel quality value of a value that is a sum of average signal to noise ratio and a second constant; and

$\lceil \alpha \times R_k / r \rceil$: integer larger than $(\alpha \times R_k / r)$.

16. (Added) The wireless communication apparatus according to claim 11, wherein the subcarrier number determining section determines the number of subcarriers in accordance with equation (2):

$$S_k = \lceil (\beta \times R_k \times N) / (R_1 + R_2 + \cdots + R_k) \rceil \quad \ldots (2)$$

where S_k: subcarrier number (where k is a user number that is a natural number of 2 or more);

β: constant;

R_k: required transmission rate of communicating party (where k is user number and is a natural number of 2 or more);

N: total number of subcarriers; and

$\lceil (\beta \times R_k \times N) / (R_1 + R_2 + \cdots + R_k) \rceil$: integer larger than $((\beta \times R_k \times N) / (R_1 + R_2 + \cdots + R_k))$.

17. (Added) A communication terminal apparatus communicating with the wireless communication apparatus according to claim 11, wherein the communication terminal

apparatus comprises:

a subcarrier selection section selecting subcarriers of the number of subcarriers using information for the number of subcarriers extracted from the received signal in order of good reception quality;

a channel quality information generating section generating the channel quality information for subcarriers selected by the subcarrier selection section; and

a second transmission section transmitting the channel quality information generated by the channel quality information generating section.

18. (Added) A base station apparatus equipped with the wireless communication apparatus according to claim 11.

19. (Added) A subcarrier allocation method comprising the steps of:

determining a number of subcarriers allocated every communicating party;

transmitting information for the determined number of subcarriers to each communicating party; and

selecting subcarriers transmission data is allocated to every communicating party based on channel quality information for the number of subcarriers for each communicating party extracted from a received signal.

20. (Added) The subcarrier allocation method according to claim 19, wherein, when determining the number of subcarriers allocated every communicating party, the number of subcarriers allocated every communicating party is determined in such a manner so as to achieve a required transmission rate or more for each communicating party.

21. (Added) The subcarrier allocation method according to claim 19, wherein the number of subcarriers allocated is taken to be all subcarriers within the communication band, and information for the number of all subcarriers is transmitted to a communicating party where the amount of data for the channel quality information of subcarriers selected by the communicating party and subcarrier identification information indicating the subcarriers selected by the communicating party is larger than an amount of data for channel quality information for all subcarriers within the communication band.

22. (Added) The subcarrier allocation method according to claim 19, wherein:

the number of subcarriers for a communicating party allocated subcarriers in one frame previous to a current frame is determined by multiplying the number of subcarriers allocated to said communicating party in said one frame previous to the current frame by a predetermined

constant; and

information for the determined number of subcarriers is transmitted.